and wherein the server is further configured to receive pricing data from each of a plurality of sources of power from the network, and to determine an optimal consumption decision, wherein the optimal consumption decision selects one of the plurality of sources of power to thereby reduce utility costs, said optimal consumption decision calculated using an optimal cost curve derived from an optimization algorithm applied to the pricing data and the forecast load.

C2 cont'd

REMARKS

This communication is responsive to the Office Action mailed May 21, 2002. By this response, Applicant has canceled claims 2, 15-17, and 35-42 without disclaimer and has amended claims 1 and 22. A total of 29 claims (2 independent and 27 dependent) remain pending in this Application. Support for the Amendment is found in the Specification and claims as originally filed. No new matter has been added.

A. Section 102(e) Rejections

Claims 35 and 36 stand rejected under Section 102(e) based on United States Patent No. 6,047,274 (the "Johnson reference.") Applicants respectfully traverse the rejection. Nevertheless, in the interest of compact prosecution, claims 35 and 36 have been cancelled without disclaimer. These rejections are therefore rendered moot.

B. Section 103(a) Rejections

Claims 1-21, 32-34, and 40-42 stand rejected to under 35 U.S.C. 103(a) based on the the Johnson reference. Similarly, claim 11 stands rejected to under 35 U.S.C. 103(a) based on the Johnson reference in view of U.S. Pat. No. 5,974,369 (the "Radtke reference"). Claims 22-31 and 37-39 also stand rejected to under 35. U.S.C. 103(a) based on the Johnson reference in view of what the Examiner characterizes as "Official Notice." As claims 37 and 39 have been cancelled without disclaimer, this rejection is rendered moot with respect to those claims.

Applicant respectfully submits that no combination of the cited references would disclose each and every element of the invention as described by the amended claims. Furthermore, there is no suggestion or motivation to combine the references.

Johnson fails to disclose a number of elements of claims 1 and 22 as amended. For example, Johnson does not disclose a system wherein an optimal consumption decision is "calculated using an optimal cost curve derived from an optimization algorithm applied to the pricing data and the forecast load" as recited in independent claims 1 and 22 as amended.

The Johnson reference generally relates to an *energy auction* service. A bidding moderator receives bids from the competing suppliers of the rate each is willing to charge a particular end user for estimated quantities of electric power or gas supply. Each supplier receives competing bids from the moderator and has the opportunity to adjust its own bids, e.g., to reflect capacity utilization.

The Examiner argues that the "optimal consumption decision" element is disclosed in the form of energy providers submitting bids to supply power to the end users, wherein the control computer selects the best choice. And while admitting that Johnson fails to expressly

teach the forecast load element of the present invention, the Examiner suggests that Johnson's teaching of the "unit or block" approach (in which a usage profile for a consumer would be relatively predictable) is equivalent to the claimed forecast load. (Column 15, lines 48-52). Applicant respectfully submits that the *a priori* method of setting the forecast load (i.e., just assuming a predictable value), as disclosed by Johnson, is clearly much different than the empirical forecast load of the present invention, and would not lead to the same efficiencies resulting from the present invention.

Furthermore, the consumption decision disclosed by Johnson is not derived from an optimization algorithm based on the forecast load and pricing data, as recited in the amended claims. The Johnson reference merely discloses a standard auction process applied to energy suppliers. In addition

The Radtke reference, on the other hand, generally relates to a "recording node" that monitors and stores energy consumption information for subsequent retrieval over a network (*see, e.g.*, Radtke col. 1, line 65 through col. 2, line 3). The recording node records consumption information and uses this data to calculate <u>real-time</u> consumption rates (Figure 2A, element 132). The recording node also calculates predicted consumption rate values based upon metering information received during a predetermined period of time (col. 2, lines 38-43). Predicted cost information is determined by multiplying the predicted consumption by a rate factor obtained from a utility (col. 10, lines 37-42). As shown in Figure 4 of the Radtke reference (and as discussed in col. 15, lines 32-47), the Radtke system is intended to allow consumers to shift consumption (e.g. of a manufacturing process) during a particular period of time to avoid over- or under-consumption of fixed-rate energy. Stated another way, the Radtke recording node is a <u>monitoring device</u> that provides consumption

information for only a relatively short interval of time (see, e.g., col. 8 lines 25-38). Radtke is not concerned with managing energy costs using both consumption data and pricing data from multiple energy sources, as encompassed by the present claims.

Although the Examiner has concluded that various elements of the prior claims are "inherent" from Radtke's teachings, Applicant respectfully disagrees. Radtke's teaching of "a projected/predicted end-of-interval consumption value" is not the equivalent of the optimal consumption decision obtained in accordance with the present invention: it would be far more complicated to generate an optimized result considering multiple factors than to merely predict a future value from historical data. Indeed, the Radke reference teaches away from an optimizing algorithm when it states:

> Step 136 then calculates a prejected/predicted end-of-interval consumption value for the respective meter based on the consumption that has occurred so far during the interval, *and the assumption that the rate of consumption will stay at the current calculated pseudo real-time rate for the remainder of the interval.* (col. 8, lines 33-38, emphasis added).

Clearly, if the rate of consumption is assumed to be invariant for the remainder of the interval, the described system must not intend to change the present rate of consumption by optimizing the rate or by seeking energy from an alternate source. Accordingly, the cited passage does not anticipate the present invention.

As no combination of the references include each and every element of the claims as amended, Applicant respectfully requests that the Section 103 rejections be withdrawn.

C. Conclusion

In view of the foregoing, Applicant respectfully submits that the present application is in condition for allowance, and earnestly solicits a Notice of Allowance at the Examiner's earliest convenience. The Examiner is invited to telephone the undersigned if such would advance prosecution of this Application in any way.

Dated this 21 day of November, 2002.

By ______________________
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Version showing changes made

1. (thrice amended). A method for automatically managing energy cost using metering data and pricing data, the method comprising the steps of:

receiving metering data from a utility meter, wherein the metering data is electronically transmitted from the utility meter;

receiving pricing data electronically over a network, wherein the pricing data is associated with a plurality of sources of power;

forecasting a forecast load based on the received metering data from the utility meter; [and]

determining an optimal consumption decision based on the received pricing data and the forecast load, wherein the consumption decision selects one of the plurality of sources of power to thereby reduce utility costs<u>, and wherein said optimal consumption decision is calculated using an optimal cost curve derived from an optimization algorithm applied to the pricing data and the forecast load; and</u>

<u>delivering the optimal consumption decision to the customer via the network.</u>

22 (twice amended). A system for automatically managing energy cost, the system comprising:

a server communicating with at least one utility meter, wherein said server is configured to record metering data received from said utility meter via a network;

and wherein the server is further configured to receive pricing data from each of a plurality of sources of power from the network, and to determine an optimal consumption decision, wherein the optimal consumption decision selects one of the plurality of sources of power to thereby reduce utility costs, said optimal consumption decision calculated using an optimal cost curve derived from an optimization algorithm applied to the pricing data and the forecast load.